

4. The assembly of claim 3, wherein the hard metal comprises a steel.

5. The assembly of claim 4, wherein the steel comprises AMS 6308 and the copper/lead alloy is comprised of about 72 percent copper and about 28 percent lead.

6. The assembly of claim 1, wherein the outer radial surface is super-finished to achieve the surface finish.

7. The assembly of claim 6, wherein the outer radial surface of the journal bearing is super-finished within a vibratory bowl.

8. An epicyclic gear assembly, comprising:

an assembly having a ring gear, sun gear, and at least one star gear enmeshed between the ring gear and sun gear; a carrier disposed adjacent the rotatable sun gear and star gears; and

a journal bearing disposed within each star gear and connected to the carrier, each journal bearing having a radial outer portion comprised of a softer metal which defines the outer radial surface of the journal bearing;

wherein the outer radial surface interfaces with and operationally conforms to an inner surface of the star gear which is comprised of a harder metal and has an amorphous surface finish of less than about 5 micro inches (127 micro mm) measured on an R_a scale.

9. The assembly of claim 8, wherein the softer metal comprises a copper/lead alloy.

10. The assembly of claim 8, wherein the harder metal comprises a steel.

11. The assembly of claim 10, wherein the steel comprises AMS 6308 and the alloy is comprised of about 72 percent copper and about 28 percent lead.

12. A process of achieving an optimized journal bearing and star gear combination, comprising:

placing a journal bearing within a vibratory apparatus;

introducing a chemical solution into the vibratory apparatus, the chemical solution capable of reacting with the an outer radial surface of the journal bearing;

agitating the outer surface of the journal bearing with a media article within the vibratory apparatus;

providing a star gear with an inner radial portion comprised of soft metal which defines an inner surface of the star gear; and

assembling the journal bearing with respect to the star gear such that the outer radial surface of the journal bearing interfaces with the inner surface of the star gear.

13. The process of claim 12, wherein the soft metal comprises a copper/lead alloy.

14. The process of claim 13, wherein the journal bearing comprises a steel.

15. The process of claim 14, wherein the steel comprises AMS 6308 and the copper/lead alloy is comprised of about 72 percent copper and about 28 percent lead.

16. The process of claim 12, wherein the outer radial surface of the journal bearing has an amorphous surface finish.

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